



**Commonwealth of Virginia
Department of Medical
Assistance Services**

External Quality Review

Sentara Family Care

**Performance Improvement
Project Validation**

SFY 2004

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Performance Improvement Project

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Performance Improvement Project Validation Summary

Sentara Family Care

Introduction and Purpose

The Virginia Department of Medical Assistance Services (DMAS) requires all Managed Care Organizations (MCOs) participating in the Medallion II Program to have ongoing performance improvement projects (PIPs). The purpose of having MCOs conduct PIPs is to assist large systems in evaluating and improving health care processes that link to member outcomes.

PIP activity can offer states an insight into the strengths and weaknesses of a MCO's quality management system (QMS), as many projects typically run two to three years and use numerous resources internally and externally to target specific providers, enrollees, and others to show meaningful improvement in one measure. Minimum expectations for PIP activity is that the MCO is able to report on their performance in a specific area by producing valid data that can be collected, measured, analyzed, and reported on an annual basis.

DMAS is adhering to the regulations set forth in the Balanced Budget Act of 1997 requiring state Medicaid agencies to annually evaluate the quality of services furnished by each MCO to Medicaid enrollees.

In view of this requirement the DMAS established a contract with a quality improvement organization, Delmarva Foundation, Inc. (Delmarva), to serve as the External Quality Review Organization (EQRO) who will independently assess each Medallion II MCO's performance for the contract year of 2004.

Medallion II MCOs were required to submit one (1) asthma related PIP for the 2004 contract year. This report is a validation summary of Sentara Health Management, Sentara Family Care's (Sentara) PIP activity that speaks to the soundness of the PIP design and whether DMAS can have confidence in the reported results. At a minimum, Medallion II MCOs were expected to submit a project report with baseline measurement to the EQRO for validation. All of the Medallion II MCOs used audited Health Plan Employer Data and Information Set (HEDIS®) measures to evaluate performance in specific areas related to national benchmarks. Final HEDIS® reports are sent to MCOs in the summer; therefore, the MCOs submitted final PIPs to the EQRO in the fall of 2004.

This validation summary report will share the Delmarva's methodology for validation, provide a summary of the major findings for each review component, comment on project's strengths and areas for improvement,

and make recommendations for resubmission or future process improvements for areas receiving partial or unmet evaluation comments.

Methodology

Sentara submitted their 2004 PIP on the National Committee's for Quality Assurance Quality Improvement Activity Form, which is the reporting tool that DMAS directed the MCOs to use when reporting their 2003 PIP activities. DMAS also agreed with the EQRO utilizing CMS' *Validation of PIPs* protocols as guidelines for review activities. To prepare each Medallion II MCO for the new validation requirements, Delmarva presented a four-hour program to orient the plans to the new BBA requirements and PIP Validation Protocols so that they would be familiar with the protocols used to evaluate their performance. CMS' Validation Protocols - "*Conducting and Validating Performance Improvement Projects*" - were presented to the MCOs in hardcopy during the PowerPoint presentation.

In addition to training nursing and health analysts in the QIA form, Delmarva staff received one eight-hour didactic educational program on the new EQR protocols. After developing a crosswalk between the QIA form and *Validating PIP Worksheet*, Delmarva staff developed review processes and worksheets using CMS' protocols as guidelines (2002). CMS' *Validation of PIPs* assist EQROs in evaluating whether or not the PIP was designed, conducted, and reported in a sound manner, and a state agency could have a degree of confidence in the reported results.

Review Activity

After submitting their 2004 PIP, *Improving Overall Treatment and Utilization Patterns for Sentara Health Management Asthma Population* electronically, a notice was sent to Sentara to confirm receipt. Sentara's submission showed that the project recently completed its fourth remeasurement cycle in 2003. The reviewers evaluated the entire project submission, although, the minimum requirement is that Sentara review and analyze its baseline performance to develop strong, self-sustaining interventions targeted to reach meaningful improvement.

A registered nurse, with over 20 years of QI and Managed Care experience, and over 4 years quality improvement project review experience, completed the validation activity. A Review Manager assessed each validation worksheet. A summary report was developed for each validation worksheet. A copy of Sentara's PIP submission and PIP Validation Worksheet are included in addendum A1 and A2 respectively.

Findings

Sentara's PIP study design was sound methodologically, and the descriptions followed the NCQA QIA form instructions for reporting.

Sentara reported that this PIP targeted all continuously enrolled Medallion II enrollees with a diagnosis of asthma. They used HEDIS technical specifications to identify their eligible population and data sources for the measures. Sentara listed the program goal as "to achieve improved patient self-management of the disease process."

Sentara listed their baseline goals for this project (1999 goals) as: 1) to decrease inpatient admissions for a primary diagnosis of asthma for a 5% improvement; 2) decrease emergency department visits for a primary diagnosis of asthma for a 5% improvement, and 3) increase the use of appropriate medications by members with asthma for a 5% improvement. Sentara realized improvement in the first two performance measures for the first three years; however, results for 2003 showed that they did sustain improvement in the inpatient and emergency admissions measures. The same occurred for their third measure, use of appropriate medications in Medallion II enrollees diagnosed with asthma, after showing improvement for three years in a row.

Strengths and Opportunities for Improvement

Selection of study topic and focus area, problem statement, and indicators

Strengths: Sentara's selection of the study topic and indicators was sound. Sentara used a HEDIS measure "Use of Appropriate Medications for People with Asthma" to evaluate performance that can be compared against national benchmarks. Sentara clearly identified inclusion and exclusion criteria for all three measures.

Opportunities for improvement: Although the description of their analysis of health plan data was impressive, Sentara did not describe why this project was chosen for meaningful improvement in the Medallion II population. There was not a description of a problem statement that supports the rationale for this study.

Study population

Strengths: Sentara used technical specifications from HEDIS® to define its study population, which is an industry standard.

Opportunities for improvement: The report did not contain a description as to how Sentara ensures that their data collection approach validly captured all Medicaid enrollees to whom the study applies.

Sampling methodology

Strengths: Sentara included the entire eligible population in the PIP.

Data collection procedures

Strengths: Sources of data were clearly identified for each indicator as claims, encounter, and pharmacy data. HEDIS methodology was used for the third indicator.

Opportunities for Improvement: There was no evidence of a plan to audit data to ensure validity and reliability of the data collected for each indicator over time. The PIP did not specify the qualifications of staff/personnel used to collect the data. A clear data analysis plan was not fully described, other than to describe the frequency of analysis.

Improvement strategies

Strengths: In 2003, Sentara provided the results of clear root cause analysis of results for each indicator, and developed multi-faceted system-wide interventions to reach meaningful improvement. They plan to use multiple disciplines internally and externally to reach the Medallion II enrollee.

Data analysis and interpretation of study results

This is the baseline review year for this project using the new BBA requirements and PIP protocols.

Recommendations

To address opportunities for improvement, the reviewers make the final recommendations to strengthen future PIP reporting activities:

- 1) Describe why this project was chosen for meaningful improvement in the Medallion II population.
- 2) Provide a problem statement that supports the rationale.
- 3) Describe efforts taken to assure the data is valid, including audits of the data collection, the plan of data analysis, and the qualifications of the staff responsible for collecting the data.

NCQA Quality Improvement Activity Form Instructions

| | |
|--|---|
| Activity Name: Improving Overall Treatment and Utilization Patterns for the Sentara Health Management Asthma Population | |
| Section I: Activity Selection and Methodology | |
| A. Using objective information (data), how did you identify this activity for improvement? Why is it important to your members or practitioners? | |
| <p>Within the Sentara Health Management population there has been a gradual increase in the number of identified asthma members for all lines of business between the years 1999 and 2002. In 1999, members identified with asthma comprised 2.2% of total members enrolled in the health plan for that year. This number rose to 2.3% of the total health plan membership in 2000, and increased to 2.6% and then to 2.8% in 2001 and 2002, respectively. 35% of all inpatient hospital admissions for respiratory related diseases were due to asthma in 2000, and 33% of respiratory related admissions were due to asthma in 2001. With a growing number of members affected by this disease it became clear that the program, which had been implemented in 1997, should continue to be an integral part of the services offered by Sentara Health Management. Through education of both members and practitioners the goal of the program is to achieve improved patient self-management of the disease process. This will lead to a decrease in the need to seek medical services for asthma, concurrently leading to an overall improvement in the member's quality of life.</p> | |
| B. Quantifiable Measure(s). List and define <i>all</i> quantifiable measures used in this activity. Include a goal or benchmark for each measure. If a goal was established, list it. If you list a benchmark, state the source. Add sections for additional quantifiable measures as needed | |
| Quantifiable Measure #1: | <p>Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for A. Commercial and POS Members B. Family Care Members (Medicaid)</p> <p>NOTE: Commercial and POS members will be referred to as A and Family Care (Medicaid) members will be referred to as B in the remainder of this document.</p> |
| Numerator: | Total number of inpatient hospital admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for A & B |
| Denominator: | Health plan members identified with asthma through claims review for A & B |
| First measurement period dates: | January 1 through December 31, 1999 |
| Benchmark: | N/A |
| Source of benchmark: | N/A |
| Baseline goal: | Decrease inpatient admissions for a primary diagnosis of asthma for a 5% improvement. |

| | |
|--|---|
| Quantifiable Measure #2: | Number of emergency department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for A & B |
| Numerator: | Total number of emergency department visits for a primary diagnosis of asthma for A & B |
| Denominator: | Health plan members identified with asthma through claims review for A & B |
| First measurement period dates: | January 1 through December 31, 1999 |
| Benchmark: | N/A |
| Source of benchmark: | N/A |
| Baseline goal: | Decrease emergency department visits for a primary diagnosis of asthma for a 5% improvement. |
| Quantifiable Measure #3: | Use of Appropriate Medications for People with Asthma (HEDIS Measure) for A & B |
| Numerator: | Number of health plan members with asthma receiving appropriate asthma medications as defined by HEDIS 2000 measure for A & B |
| Denominator: | Number of health plan members with asthma for A & B |
| First measurement period dates: | January 1 through December 31, 1999 |
| Benchmark: | Not available for 1999 and 2000. For 2001 for A only: QualChoice VA |
| Source of benchmark: | NCQA Quality Compass 2001 |
| Baseline goal: | Increase the use of appropriate medications by members with asthma for a 5% improvement. |

C. Baseline Methodology**C.1 HEDIS/CAHPS® 2.0H Methodology** (Note: This element is not required.)**Was HEDIS/CAHPS® methodology used?**

☒ Yes. HEDIS methodology was used for Quantifiable Measure #3 as listed above.

List the years used: _1999, 2000, 2001, 2002

List the HEDIS® measure and/or CAHPS® 2.0H question numbers used and/or the composite questions used: _Use of Appropriate Medications for People with Asthma

Skip to Section I D.

☐ No. If HEDIS/CAHPS® 2.0H methodology was not used, complete Section I C.2-6. HEDIS/CAHPS 2.0H methodology was not used for Quantifiable Measures # 1 and #2.

C.2 Data Sources- Applies to Quantifiable Measures # 1 and #2

☐ Medical/treatment records

☐ Administrative data:

☒ Claims/encounter data for Quantifiable Measures #1 and #2

☐ Complaints

☐ Appeals

☐ Telephone service data ☐

☐ Appointment/access data

☐ Hybrid (medical/treatment records and administrative)

☐ Pharmacy data

☐ Survey data (attach survey tool and attach the complete survey protocol)

☐ Other (list and describe):

C.3 Data Collection Methodology. Check all that apply and enter the measure number from Section B next to the appropriate methodology. **Applies to Quantifiable Measures #1 and #2.**

If medical/treatment records, check below
☐ Medical/treatment record abstraction

If survey, check all that apply:

- ☐ Personal interview
☐ Mail
☐ Phone with CATI script
☐ Phone with IVR
☐ Internet
☐ Incentive provided
☐ Other (list and describe):

If administrative, check all that apply:

- ☒ Programmed pull from claims/encounter files of all eligible members for Quantifiable Measure #1 and #2
☐ Programmed pull from claims/encounter files of a sample of members
☐ Complaint/appeal data by reason codes
☒ Pharmacy data- Quantifiable Measure #3
☐ Delegated entity data
☐ Vendor file
☐ Automated response time file from call center
☐ Appointment/access data
☐ Other (list and describe):

C.4 Sampling. If sampling was used, provide the following information: Not Applicable

| Measure | Sample Size | Method for Determining Size (describe) | Sampling Method (describe) |
|---------|-------------|--|----------------------------|
| | | | |
| | | | |
| | | | |

| C.5 Data Collection Cycle- For Quantifiable Measures #1 and #2 | Data Analysis Cycle- For Quantifiable Measures #1 and #2 |
|---|---|
| <p> <input type="checkbox"/> Once a year <input type="checkbox"/> Twice a year <input type="checkbox"/> Once a season <input type="checkbox"/> Once a quarter <input type="checkbox"/> Once a month <input type="checkbox"/> Once a week <input type="checkbox"/> Once a day <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Other (list and describe): <hr/> <hr/> </p> | <p> <input type="checkbox"/> Once a year <input type="checkbox"/> Once a season <input type="checkbox"/> Once a quarter <input type="checkbox"/> Once a month <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Other (list and describe): <hr/> <hr/> </p> |
| C.6 Other Pertinent Methodological Features. | |
| <p>Data for Quantifiable Measures #1 and #2 reflect continuously enrolled members with a primary diagnosis of asthma using ICD9 diagnosis codes 493 through 493.92. Data is calculated using a rolling year average .</p> <p>Data for Quantifiable Measure #3 is based on the percentage of continuously enrolled members with asthma in the prior year that received an appropriate prescription in the reporting year. For this measure Asthma is defined as a member who meets one of the following criterion in the prior year:</p> <ul style="list-style-type: none"> - 4 or more asthma medication dispensing events - 1 or more Emergency Department visits for asthma - 1 or more inpatient admissions for asthma - 4 outpatient visits AND 2 or more asthma Rx dispensing events | |
| D. Changes to Baseline Methodology. Describe any changes in methodology from measurement to measurement. | |
| <p>Include, as appropriate</p> <ul style="list-style-type: none"> • Measure and time period covered • Type of change • Rationale for change • Changes in sampling methodology, including changes in sample size, method for determining size, and sampling method • Any introduction of bias that could affect the results <p>There were no changes in baseline methodology.</p> | |

| Section II: Data / Results Table | | | | | | | |
|---|------------------|------------------|--------------------|----------------------|-------------------|------------------------|---------------------------------------|
| Complete for each quantifiable measure; add additional sections as needed. | | | | | | | |
| #1 Quantifiable Measure: Number of Inpatient Admissions for a Primary Diagnosis of Asthma (ICD9 493.0-493.92) | | | | | | | |
| Time Period Measurement Covers | Measurement | Numerator | Denominator | Rate or Results | Current Benchmark | Current Goal | Statistical Test and Significance* |
| 1/1/1999 through 12/31/1999 | Baseline: | A. 113 B. 142 | A. 3907 B. 2587 | A. 2.9% B. 5.5% | | A. 2.09% B. 5.42% | A. Chi-square R3 to baseline: p=0.001 |
| 1/1/2000 through 12/31/2000 | Remeasurement 1: | A. 84 B. 164 | A. 3511 B. 3292 | A. 2.4% B. 5.0% | | A. 2.76% B. 5.23% | Chi-square R3 to R2: p=0.100 |
| 1/1/2001 through 12/31/2001 | Remeasurement 2: | A. 88 B. 190 | A. 3848 B. 4139 | A. 2.3% B. 4.6% | | A. 2.28% B. 4.75% | B. Chi-square R3 to baseline: p=0.010 |
| 1/1/2002 through 12/31/2002 | Remeasurement 3: | A. 67 B. 187 | A. 3926 B. 4675 | A. 1.7% B. 4.0% | | A. 2.18% B. 4.37% | Chi-square R3 to R1: p=0.050 |
| 1/1/2003 through 12/31/03 | Remeasurement 4: | A. 76 B. 173 | A. 3303 B. 4213 | A. 2.3% B. 4.1% | | A. 1.62% B. 3.8% | |
| #2 Quantifiable Measure: Number of Emergency Department Visits for a Primary Diagnosis of Asthma (ICD9 493.0- 493.92) | | | | | | | |
| Time Period Measurement Covers | Measurement | Numerator | Denominator | Rate or Results | Current Benchmark | Current Goal | Statistical Test and Significance* |
| 1/1/1999 through 12/31/1999 | Baseline: | A. 461 B. 673 | A. 3907 B. 2587 | A. 11.8% B. 26.2% | | A. 9.8% B. 20.5% | A. Chi-square R2 to baseline: p=0.100 |
| 1/1/2000 through 12/31/2000 | Remeasurement 1: | A. 379 B. 698 | A. 3511 B. 3292 | A. 10.8% B. 21.2% | | A. 11.21% B. 24.89% | B. Chi-square R1 to baseline: p=0.001 |
| 1/1/2001 through 12/31/2001 | Remeasurement 2: | A. 404 B. 757 | A. 3848 B. 4139 | A. 10.5% B. 18.3% | | A. 10.26% B. 20% | Chi-square R2 to baseline: p=0.001 |
| 1/1/2002 through 12/31/2002 | Remeasurement 3: | A. 455 B. 935 | A. 3926 B. 4675 | A. 11.6% B. 20.2% | | A. 10.0% B. 17.4% | Chi-square R2 to R1: p=0.010 |
| 1/1/2003 through 12/31/2003 | Remeasurement 4: | A. 347 B. 893 | A. 3303 B. 4213 | A. 10.5% B. 21.2% | | A. 11.0% B. 19.2% | |

| #3 Quantifiable Measure: Use of Appropriate Medications for People with Asthma (HEDIS) | | | | | | | |
|--|------------------|--------------------|--------------------|------------------------|------------------------|-------------------------------|--|
| Time Period Measurement Covers | Measurement | Numerator | Denominator | Rate or Results | Current Benchmark | Current Goal | Statistical Test and Significance* |
| 1/1/1999 through 12/31/1999 | Baseline: | A. 869 B. 590 | A. 1548 B. 1003 | A. 56.14% B. 58.82% | Not available for 1999 | Not measured in previous year | A. Chi-square R2 to baseline: p=0.001 B. Chi-square R2 to baseline: p=0.001 |
| 1/1/2000 through 12/31/2000 | Remeasurement 1: | A. 1073 B. 707 | A. 1752 B. 1151 | A. 61.24% B. 61.42% | Not available for 2000 | A. 58.94% B. 61.72% | |
| 1/1/2001 through 12/31/2001 | Remeasurement 2: | A. 1148 B. 1104 | A. 1836 B. 1628 | A. 62.53% B. 67.81% | A. 71.31% B. N/A | A. 64.24% B. 64.42% | |
| 1/1/2002 through 12/31/2002 | Remeasurement 3: | A. 1145 B. 1350 | A. 1732 B. 1939 | A. 66.11% B. 69.62% | A. N/A B. N/A | A. 65.65% B. 71.21% | |
| 1/1/2003 through 9/30/2003 | Remeasurement 4: | A. 968 B. 1313 | A. 1478 B. 1954 | A. 65.49% B. 67.20% | A. N/A B. N/A | A. 69.41% B. 73.02% | |

- If used, specify the test, p – value, and the specific measurements (e.g., baseline to remeasurement #1, remeasurement #1 to remeasurement #2, etc., or baseline to final remeasurement) included in the calculations. NCQA does not require statistical testing.

Section III: Analysis Cycle

Complete this section for EACH analysis cycle presented.

A. Time Period and the Measures the Analysis Covers.

- Baseline: January 1 through December 31, 1999
 - Quantifiable Measure #1- Number of inpatient admissions for a primary diagnosis of asthma (ICD(493.0-493.92) for population (A) Commercial and POS and (B) Family Care (Medicaid).
 - Quantifiable Measure #2- Number of emergency department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for population (A) Commercial and POS and (B) Family Care (Medicaid)
 - Quantifiable Measure #3- Use of Appropriate Medications for People with Asthma (HEDIS) for population (A) Commercial and POS and (B) Family Care (Medicaid).
- Remeasurement 1: January 1 through December 31, 2000
 - Quantifiable Measure #1- Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for Population (A) Commercial and POS and (B) Family Care (Medicaid).
 - Quantifiable Measure #2- Number of emergency department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for population (A) Commercial and POS and (B) Family Care (Medicaid)
 - Quantifiable Measure #3- Use of Appropriate Medications for People with Asthma (HEDIS) for population (A) Commercial

and POS and (B) Family Care (Medicaid)

3. Remeasurement 2: January 1 through December 31, 2001

- A. Quantifiable Measure #1- Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B).
- B. Quantifiable Measure #2- Number of emergency department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B).
- C. Quantifiable Measure #3- Use of Appropriate Medications for People with Asthma (HEDIS) for populations (A) and (B).

4. Remeasurement 3: January 1 through December 31, 2002

- A. Quantifiable Measure #1- Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B).
- B. Quantifiable Measure #2- Number of emergency department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B).
- C. Quantifiable Measure #3- Use of Appropriate Medications for People with Asthma (HEDIS) for populations (A) and (B).

5. Remeasurement 4: January 1 through December 31, 2003

- A. Quantifiable Measure #1- Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B).
- B. Quantifiable Measure #2- Number of emergency department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B).
- C. Quantifiable Measure #3- Use of Appropriate Medications for People with Asthma (HEDIS) for populations (A) and (B).

B. Analysis and Identification of Opportunities for Improvement. Describe the analysis and include the points listed below.

1. Remeasurement #1: January 1 through December 31, 2000

Measure #1: Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The admission rate for population (A) for this time period was 2.4% and for population (B) was 5.0%. Both populations exceeded the goal for this measure set at a 5% decrease from the previous year. There were no changes to the goals for this measure. The percent of inpatient admissions in the previous year was measured at 2.9% for (A) and 5.5% for (B). The trend for inpatient admissions for both populations decreased, improving outcomes by 17% for population (A) and 9% for population (B), exceeding the goal set at a 5% decrease for both.

Qualitative: All members admitted to the hospital for a primary diagnosis of asthma receive educational interventions designed to assist in increasing self awareness of their disease process and enhance self management techniques. Members in the local areas are referred to the home health Life Coach program for one on one educational intervention. Members in the expansion areas receive telephonic case management, and all members receive educational mailings. In addition, the primary care physicians receive notification of the member's enrollment in home health/telephonic case management programs, along with patient specific utilization profile with a reminder that inhaled anti-inflammatory medications are recommended for any persistent form of asthma.

Barriers: Locating members to participate in the Life Coach program has been difficult at times. Addresses and telephone numbers available are often

incorrect, as population (B) tends to be transient. Occasionally members also refuse participation in the program, often indicating that they do not need this type of intervention, incorrectly assessing that their disease process is under adequate control.

Physician practice patterns have been slow to change, there are still a great many more prescriptions written for quick relief medications as opposed to preventative medications.

Many new members are joining the health plan through the expansion efforts. The home health program will not be available to these members until agencies can be identified in these areas that would want to administer this program. Until that happens, these members will be managed telephonically.

Opportunity: Continue to refer high risk members to home health Life Coach program, increase efforts to obtain accurate telephone numbers and addresses.

Explore opportunities to provide home health Life Coach program to growing membership in expansion areas.

Provide physicians with continual reminders of guideline recommendations for the appropriate treatment for asthma and individual patient reports.

Intervention: Continue referrals to Life Coach program and telephonic case management as described. Provide closed circuit asthma education on the hospital education channels. Asthma education has been added to the standard orders for asthma admissions in the Sentara Hospitals, to be performed by hospital nursing/respiratory staff during hospital admission. Notify primary care providers by mail when member is admitted and review utilization profile.

Measure #2: Number of Emergency Department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The emergency department visit rate for (A) for this time period was 10.8% and for (B) was 21.2%. Both populations exceeded the goal for this measure set at a 5% decrease from the previous year. There were no changes to the goals. The percent of emergency department visits in the previous year was measured at 11.8% for (A) and 26.2% for (B). The trend for emergency department visits for both populations decreased, improving outcomes by 8.5% for (A) and by 19% for (B), exceeding the goal set at a 5% decrease for both.

Qualitative: Members with 2 or more emergency department visits in a 6 month period are referred to the home health Life Coach program locally or to telephonic case management in the expansion area. All members identified with asthma receive educational mailings, and local members also receive invitations to group education classes. Notification letters are sent to the primary care providers alerting him/her to the home health referral or telephonic case management. These letters include reports on patient utilization for asthma and recommendations on appropriate therapy for asthma patients.

Barriers: There are no case managers in the emergency departments at the hospitals to report asthma admissions in a more timely manner. Early intervention is important to ensure patients are open to receiving asthma education.

Frequently there is no follow up appointment made with the patient's PCP after an acute asthma episode that has required an ED visit.

Telephonic case management is a limited resource that has reached maximum capacity, especially with the addition of more members in the expansion areas.

Opportunity: Patient's are much more receptive to learning about their disease process after suffering from an acute attack. Approaching a patient with educational materials and opportunities post ED visit would assure an increased interest on the patient's part. Making sure the patient schedules a visit with their PCP soon after the ED visit would provide an opportunity for enhanced patient/provider communication and better overall assessment of the patient's asthma.

Intervention: Continue to refer high-risk members to the home health Life Coach program and telephonic case management.

Continue to mail educational materials and invitations to local asthma group education classes.

Notify patient's primary care provider when ED visit occurs.

Encourage ED staff to counsel patient on use of asthma medications and to make a follow up appointment with their primary care provider to obtain ongoing preventative medication prescriptions and an asthma action plan.

Measure #3: Use of Appropriate Medications for People with Asthma (HEDIS) for populations (A) and (B).

Quantitative: Because the measure was introduced by HEDIS beginning in 2000, there were no benchmarks for this year. For combined age groups measured (5-56 years) for population (A) the appropriate medication rate was 61.24% for this time period, and for population (B) it was 61.42%. Population (A) exceeded the goal for this measure set at a 5% decrease from the previous year. Population (B) minimally missed the goal. There were no changes to the goals. The percent of appropriate medication use in the previous year for (A) was measured at 56.14% and for (B) was measured at 58.82%. The trend for appropriate use of medication for members with asthma increased for (A) by 8%, exceeding the goal set at 5%, and increased for (B) by 4%, missing the goal set at 5%.

Qualitative: Inservices were provided to some physician practices to encourage appropriate medication prescribing practices and adherence to the National Institutes of Health Guidelines for the Diagnosis and Management of Asthma published in 1997. These guidelines are recognized as the clinical standard for asthma care. Physicians also receive Management Summary reports twice yearly (January and June) to give an overview of how their asthma management techniques compare to their peer group and the goals set by the health system.

Barriers: Although physician practice inservices are well received, they are difficult to schedule due to the busy work environment.

Sentara disseminates guidelines of care, which include asthma guidelines, to all network participating physicians, but many physicians do not take the time to look at these guidelines. This inability to capture physician attention with written material applies also to the individual patient reports and twice yearly management summaries, which are also distributed to the physicians. These tools can not be effective if they are not used.

Appropriate education about the use and purpose of asthma medications often is not imparted to the patient.

Opportunities: Effective medication use can be achieved through improved provider and patient education. Better physician prescribing practices can be encouraged through ongoing educational opportunities and keeping physicians abreast of the newest trends in asthma medications. Better patient adherence to medication regimens can be achieved through ongoing patient education and providing the proper tools to enhance medication performance, such as spacers and peak flow meters.

Intervention: Efforts are being made to reach patients for alternative educational opportunities, such as holding educational seminars at employee work sites. Many members can be reached in this format with the cooperation of their employer. Several of these were held this year in a "lunch and learn" format, which is amenable to both employer and employee.

Attempts will be made to schedule more physician office inservices. There is a need to address not only the physicians within each practice site, but also the office staff who are primarily responsible for performing patient education.

Remeasurement #2: January 1 through December 31, 2001

Measure #1: Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The admission rate for population (A) for this time period was 2.3%, the admission rate for population (B) was 4.6%. Population (A) met the goal and population (B) exceeded the goal set at a 5% decrease from the previous year. There were no changes to the goals. The percent of inpatient admissions for the previous year was measured at 2.4 % for (A) and 4.9% for (B). There was a decreasing trend in inpatient admissions for both

populations, improving outcomes for (A) by 4% and for (B) by 8%.

Qualitative: When a member is hospitalized for a primary diagnosis of asthma it is viewed as a failure of treatment, and the patient's current treatment regimen needs to be reviewed and re-evaluated to see if more aggressive therapy is necessary. All members hospitalized for asthma are automatically referred to the home health Life Coach program in local areas, and members in the expansion areas are referred for telephonic case management. Concurrently the member's utilization profile is reviewed and sent to their primary care physicians with guideline recommendations on appropriate medication therapy for asthmatics.

Barriers: Telephonic case management in the outlying areas has been a challenge due to inability to contact members, either through incorrect telephone numbers, disconnected telephone numbers, unreturned messages, or language barriers. These issues are also a concern in local areas where it makes it difficult for the home health nurses to make contact with members referred to the Life Coach program.

Opportunity: The home health Life Coach program has shown positive outcomes in the local population, there is a need to replicate this program in the expansion coverage areas. The telephonic case management program can only be effective if the members contacted are accepting of the service and wish to participate.

Intervention: Contact will be made with home health agencies that Sentara Health Management currently does business with in the expansion areas to find out if any of these agencies would like to participate in providing the Life Coach program in their areas. Also verification of member phone numbers through physician offices will be implemented- often physician offices have more current telephone numbers.

Measure #2: Number of Emergency Department visits for a primary diagnosis of asthma (ICD(493.0-493.92) for populations (A) and (B)

Quantitative: The emergency department visit rate for population (A) for this time period was 10.5%, the emergency department visit rate for (B) for this time was 18.3%. Population (A) did not meet the goal set at 10.3% (a 5% decrease) for this year, however population (B) exceeded the goal of 20.0% with a rate of 18.3%. There were no changes to the goals. The percent of emergency department visits for the previous year was measured at 10.8 % for (A) and 21.2 % for (B). The overall trend in emergency department visits for both populations was downward, with a positive change of 3% for (A) and 14% for (B).

Qualitative: The ongoing interventions of the home health Life Coach program, telephonic case management, educational mailings, and physician reporting seem to be trending emergency department visits downward. All interventions are designed to assist members in self-managing their disease process. With advancements in asthma medication therapy and increased knowledge about the disease process and how to control its effects, emergency department visits for a primary diagnosis of asthma should be avoidable.

Barriers: There is often a period of time between the actual emergency department visit and when the Disease Management department discovers the visit has been made due to claims processing. Patients are generally more receptive to interventions and disease education directly after an acute episode, therefore timing is important when attempting to educate members about their disease and appropriately accessing health care. The same barriers of member contact continue, with incorrect or disconnected phone numbers being the main problem. There is also an issue of follow up after an emergency department visit, the member is not making an appointment with their primary care physician soon after the ED visit to discuss the cause of the event and possible changes in therapy to decrease the likelihood of another ED visit.

Opportunity: There may be a way to work the emergency department staff of local hospitals to improve notification time of Disease Management when a member is seen for asthma. Another avenue to explore may be to reinforce the use of clinical pathways and standing orders for asthma patients that have been implemented in the Emergency Departments of the local hospitals, ensuring specific educational parameters are performed and follow up appointments are arranged prior to discharge.

Intervention: Educational staff in the emergency departments at area hospitals will be contacted to assess the need for development of a feedback mechanism to Disease Management in a timely manner when a member is admitted to the ED with an asthma diagnosis. They will also reinforce utilization of existing care pathways and standing orders to increase educational opportunities and follow up care while the member is in the ED.

Continuing efforts will be made to verify and update member phone numbers.

An educational website was implemented in October of 2001 with the intent to provide asthma education materials to school health professionals, teachers, students, and parents of children with asthma. The website links directly to other Sentara school health initiatives. It provides clinical tools such as instructions on peak flow meter use, MDI administration, asthma action plans, etc. Along with the educational content, the website provides links to other websites specific to asthma and allergy concerns.

Measure #3: Use of Appropriate Medications for People with Asthma (HEDIS) for populations (A) and (B)

Quantitative: The benchmark for population (A) for this year as determined by NCQA's Quality Compass 2001 was QualChoice VA with a combined age percentage of 71.31% appropriate medication use. The Sentara Health Management goal was set at 64.24% for (A) and 63.42% for (B), a 5% increase from the previous year. The actual percentage for appropriate use of medications for combined age groups (ages 5-56) during this time period was measured at 62.53% for (A) and 67.81% for (B). The goal was not met for (A), but was exceeded for (B). There were no changes to the goals. The percent of appropriate medications for members with asthma in the previous year for (A) was 61.24%. The percent in the previous year for (B) was 61.42%. The overall trend of this measure for both (A) and (B) was upward, with a 2% increase for (A) and a 9% increase for (B).

Qualitative: Continuing efforts are being made to inform physicians about updated national and health plan guidelines which recommend the most appropriate medication therapy for asthma patients. Clinical and referral guidelines are created by the health plan and disseminated annually to network participating physicians. Individual patient reports are also sent to primary care providers when a member is identified as having utilization issues either with asthma medications or acute care services. In 2001 the Physician Management Summary was distributed once to network participating physicians. This report gives an overview of several chronic disease states with specific indicators for each disease correlated to the individual physician's patient panel, and comparing their results to that of their peer group and the goals set by the health plan.

Barriers: Barriers to disseminating information to physicians usually involves the communication process. Often, mailed information is triaged by office staff, and may not reach the physician in an appropriate time frame, if at all. Another barrier is correlation between the data the health plan presents to the physician and physician records. The health plan can only record prescriptions filled by the member, but does not have access to prescriptions written by the physician. This discrepancy is usually attributable to patient non-compliance with the course of treatment recommended by the physician.

Opportunity: Enhancing the communication process between the physician and patient and also between the physician and the health plan can lead to better prescribing practices and better patient compliance with medication regimens. Educational opportunities should be presented to both providers and members in an easily accessible fashion to encourage the highest level of participation from both.

Intervention: Continue to distribute Physician Management Summaries and patient specific reports, maintaining as high a level of accuracy as possible. Arrange educational opportunities in environments accessible to both providers and patients. Inservices can be held at physician practice sites, and group education classes can be held at employer sites during lunch hours to encourage participation.

Remeasurement #3: January 1 through December 31, 2002

Measure #1: Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The admission rate for population (A) for this time period was 1.7%, and for population (B) was 4.0%. Both populations exceeded the goal

for this measure set at a 5% decrease from the previous year. There were no changes to the goal for this measure. The percent of inpatient admissions in the previous year was measured at 2.3% for (A) and 4.6% for (B). The trend for inpatient admissions for both populations decreased, improving outcomes by 26% for (A) and 13% for (B), exceeding the goal set at a 5% decrease for both.

Qualitative: Ongoing interventions such as the home health Life Coach program targeted specifically to high risk members have proven to be effective in decreasing hospital admissions. There is probably an increased awareness throughout the community about asthma due to the increasing numbers of people being diagnosed with this chronic disease. Educational programs are being provided in the workplace to make attendance more convenient. School aged children are targeted through educational programs on the schoolasthmaallergy.com website and cable access television programs for local viewers.

Barriers: A growing population of members with asthma in the expansion area presents challenges for contacting members and delivery of services. This is a much more rural population and access to health care is often an issue. There are few organized educational opportunities, and even when these are available, transportation to far away urban areas is not possible.

Opportunity: Education conducted either in the member's home or over the telephone to provide one on one intervention would work best in these more rural settings. Providing mailed educational materials in low reading ability formats and alternative languages, especially Spanish, would also be beneficial. Materials need to be culturally sensitive and every attempt should be made to ensure the member understands the material presented.

Intervention: Home health agencies that provide services in these areas will be contacted to find out which ones are interested in administering the Life Coach program to members in these areas. Once identified, the agencies will be contracted to provide the program, and training will proceed with the agency's staff to begin performing this function. A nurse case manager was hired to provide telephonic case management services to members in these areas. The case manager's responsibilities include mailing educational material, arranging home care services, and telephonic case management for members in the expansion areas. Members can also find educational information through the schoolasthmaallergy.com website if they have computer access.

Measure #2: Number of Emergency Department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The emergency department visit rate for (A) for this time period was 11.6% and for (B) was 20.2%. Neither population met the goal set at a 5% decrease from the previous year. There were no changes to the goal. The percent of emergency department visits in the previous year for (A) was 10.5%, and for (B) was 18.3%. The trend for emergency department visits for both populations increased in 2002. It increased by 10% for (A) and by 10% for (B).

Qualitative: There was an increased effort to provide member education, specifically to reach larger groups of members at one time through educational sessions on site at their workplace, and through participation in health fairs and community outreach programs.

Because the inability to contact members at risk for acute asthma episodes has always been a concern, the issue of telephone verification and identifying accurate phone numbers needs to be addressed.

Barriers: Ongoing barriers include: inability to contact, incorrect phone number, members not interested in participating in the program, member not compliant with recommended therapy, physician not implementing best therapeutic interventions, patient/physician communication issues.

Opportunity: There has not been much progress made in being able to identify members who have had a recent acute emergency department visit. There is still no process in place to notify Disease Management when a member has been to the emergency department. Despite efforts to implement a system with area hospitals, there is no clear indication in the ED of which staff this responsibility would fall upon, and how it should be done for other insurance providers. Also, this would be difficult to replicate throughout the state with the many hospitals members would access.

Intervention: Members are contacted as soon as possible after an emergency department visit to determine level of need and proceed with the appropriate

intervention. If the member has been to the ED more than twice in a six-month period they are eligible to participate in the home health Life Coach program in local areas. Members in the expansion areas will be eligible for this service when available in their area. If home health is not available, they will receive telephonic case management. Local members will receive invitations to group classes. All will receive educational mailings. Attempts will be made to continue to provide group seminars at employer sites and participate in community health fairs.

Measure #3: Use of Appropriate Medications for People with Asthma (HEDIS) for population (A) and (B)

Quantitative: The percentage for appropriate use of medications for combined age groups (ages 5-56) during this time period was measured at 66.11% for (A) and 69.62% for (B). The goal of 65.65% for (A) was exceeded, however even with an improvement from the previous year of 2% for (B), the goal of 71.21% was not met. There were no changes to the goals. The trend for both populations remained positive, with an increase of almost 4% in population (A) and 2% in population (B). The percent of appropriate medication use in population (A) the previous year was 62.53%, and the percent for (B) for the previous year was 67.81%.

Qualitative: Continuing efforts to encourage physicians to prescribe asthma medications appropriately include: dissemination of patient specific reports to primary care physician responsible for patient medication management providing an overview of one year of patient utilization of services and medication use, distribution of clinical guidelines which indicate the recommended appropriate therapy for asthma patients, letters to physicians outlining recommended therapy and suggesting changes to patient prescribing practices. Members also receive information on medications they are using along with an explanation of what control medications are and how to use them. Patients are encouraged to discuss any questions or concerns they may have about their medication with their physician.

Barriers: There has been some reticence on the part of pediatric primary care physicians to use inhaled steroid based medication with younger patients. The NIH re-issued their guidelines decreasing the age deemed appropriate for use of inhaled steroids to 4 years of age, in some cases even younger. This information needs to be relayed to the pediatric physicians, along with encouragement to put younger children with persistent forms of asthma on these types of medications as prevention against asthma attacks.

Opportunity: Promoting good communication between patient and physician is the key to appropriate self- management of a chronic disease process such as asthma. Sometimes the patient can act as a catalyst to trigger a change in how the physician chooses to manage their disease process. Through education of both patient and physician in the best possible treatment of asthma, the goal is to improve the appropriate prescription and use of preventative asthma medications by both physicians and patients.

Intervention: Continue various avenues of both patient and physician education. Make physicians aware of changes in age considered appropriate for use of inhaled corticosteroid medication. Help patients to understand the safety of this type of medication through mailed information and telephonic case management. Encourage good patient/physician communication channels through written and telephonic interventions.

Remeasurement #4: January 1 through December 31, 2003

Measure #1: Number of inpatient admissions for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The admission rate for population (A) for this time period was 2.3% and for population (B) was 4.1%. Neither population (A) or population (B) met the set goal for this time period. The percent of inpatient admissions in the previous year was measured at 1.7% for (A) and 4.0% for (B). There were no changes to the goal for this measure. There was a minimal increase for both populations in this measure, with inpatient admissions increasing by only 2% in population (B).

Qualitative: Members who have been admitted to the hospital with a primary diagnosis of asthma are classified as high risk and are automatically

enrolled in the home health Life Coach program. This program has been expanded to include coverage areas throughout the expansion areas of Virginia, and is now available to almost all member service areas. This program continues to encourage better self-management techniques such as improved medication utilization, trigger identification and avoidance, and good physician/patient communication techniques. The schoolasthmaallergy.com website is available to members with access to reinforce educational materials and provide additional resources within Sentara and in the member's community. The asthma case manager contacts members to provide educational services and guidance over the phone.

Barriers: A continual barrier to providing services is lack of telephone and incorrect demographic information. All outreach techniques are dependent upon being able to speak to the member to impart the educational message and inform them of services available. Sometimes it is possible to verify telephone numbers through the physician offices, however this becomes time consuming and labor intensive for staff to contact individual physician offices for member telephone numbers.

Opportunity: Because telephonic communication is not always an option, written communication mailed to the member needs to become a focus as it may be the only way available to make contact with the member. Letters will be sent to all members unable to be contacted on the telephone explaining why they are being contacted and asking them to contact Sentara if possible. Educational materials are already being mailed to all members identified with asthma. These materials provide written educational information when one-on-one information can not be performed.

Intervention: Increased attempts will be made to encourage participation in the home health Life Coach program for all members. Telephone numbers will be verified by Disease Management staff and correct contact numbers will be forwarded to appropriate home health agencies. The asthma case managers will make contact with all high risk members to inform them of the Life Coach program and let them know they should expect to be contacted by a home health nurse to set up appointments in their homes. Case managers also mail letters to members who cannot be contacted by phone to ask the member to contact Sentara in order to participate in the program. Case managers have the ongoing responsibility of mailing educational packets to all members identified with asthma in the health plan.

Measure #2: Number of Emergency Department visits for a primary diagnosis of asthma (ICD9 493.0-493.92) for populations (A) and (B)

Quantitative: The emergency department visit rate for this time period for population (A) was 10.5% and for population (B) was 21.2%. Population (A) met the set goal of 11.0%, population (B) did not meet the set goal of 19.2%. The goal set for this year did not change from the 5% decrease set in previous years. The percent of emergency department visits in the previous year for (A) was 11.6% and for (B) was 20.2%. There was a 10% decrease in emergency department visits for population (A), and a 5% increase in emergency department visits for population (B).

Qualitative: Efforts are ongoing to improve the education of members to seek medical attention at their primary care site as opposed to using the emergency room whenever possible. This message is being disseminated in several ways throughout health plan communications to members. They are reminded in enrollment information, when they access member services on the phone, and through member handbooks. They are encouraged to call the After Hours nurses during off- hours and seek medical advice through this avenue rather than proceed to the emergency department.

Barriers: Patients tend to view the emergency room as a place to receive immediate care even if their health issue is not urgent. Often it is a matter of proximity and timing that makes the emergency department easier to use than the primary care site. They are also guaranteed to be seen the same day even with a long wait, rather than having to make an appointment and possibly having to wait a day or two to be seen by a doctor.

Opportunity: There is a need to use various forms of communication to encourage patients to use appropriate treatment sites. Reiterating this message in multiple forms of patient contact will continue to inform members of the necessity of using good judgement when deciding how to seek medical attention when necessary.

Intervention: Multiple levels of patient education will continue to address this issue. Members being seen in the emergency department for a primary

diagnosis of asthma more than twice in a year will be placed in the home health Life Coach program. Part of the education within the program includes tips on when to seek emergent care. The Life Coach nurses are available 24 hours around the clock for questions or concerns regarding asthma, as are the after hours nurses. Members are also eligible for telephonic case management, as well as educational mailings. All forms of communication stress the importance of seeking emergent care responsibly.

Measure #3: Use of Appropriate Medications for People with Asthma (HEDIS) for populations (A) and (B)

Quantitative: The percentage of appropriate medication for combined age groups measured (ages 5-56) for this time period is 65.49% for population (A) and 67.20% for population (B). Both groups fell below the goals set at 69.41% for (A) and 73% for (B), which were set at a 5% increase from the previous year percentage increase. There were no changes to the goals. The percent of appropriate medications for members with asthma in the previous year for (A) was 66.11% and for (B) was 69.62%. These data were only available through 3rd quarter 2003, there is no data currently available through the end of the year.

Qualitative: The National Institutes of Health updated their guidelines for management of asthma in 2002. These updates include recommending the use of inhaled corticosteroids in younger children, generally ages 4 and above. 500 of these updated guidelines were sent out to participating primary care and pediatric physicians identified as prescribing high amounts of rescue medicines with low amounts of preventative medicines. Letters are sent to physicians along with individual patient utilization reports, making them aware of their prescribing practices on an individual patient level. The letter also reminds physicians of the NIH guideline recommendations for prescribing preventative medicines for anyone diagnosed with a persistent form of asthma.

Barriers: Communication to physician practices needs to be reinforced through written and oral communication. Not all written communication is viewed by the physician, oral communication is the best way to make sure the message is received. Other avenues of communicating this message need to be explored and implemented. There also continues to be a need to reinforce patient education about the over use of rescue medicines and the need to control asthma symptoms through increased use of preventative medicine. There is still a misperception about the detrimental nature of corticosteroids, and many patients also quit using their preventative inhaler because they feel no immediate relief from this type of medication.

Opportunity: The use of other entities besides health plan resources can be employed to communicate the need to increase the use of preventative medications. Representatives from pharmaceutical companies can reach physician office and staff to educate on this issue, as well as having other physicians comfortable with the topic present to physician peer groups. Educating the patient about the benefits and safety of inhaled preventative medicines can lead to increased requests for the physicians to prescribe these types of medications.

Intervention: Take advantage of contacts outside the health plan to increase awareness of the updated guidelines and safety of prescribing inhaled corticosteroids in younger children. Include pharmaceutical representatives, outside coalition contacts, local and national resources (American Lung Association), instruction from other physicians. Encourage patients to communicate severity of symptoms and need for ongoing preventative medication to their physician to help physicians understand the level of asthma severity and the need for prevention rather than just rescue medicines.

Interventions Taken for Improvement as a Result of Analysis- Note: Interventions taken across all Lines of Business- no differences in interventions will be listed for Commercial/POS and Family Care members.

Ongoing Interventions Implemented Prior to Analysis Cycles for Current Review:

| Date Implemented (MM / YY) | Check if Ongoing | Interventions | Barriers Interventions Address |
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| 01/97 | X | Asthma Home Health Program instituted for all members with asthma classified as high risk based on service utilization, self-reported symptoms, physician identification, and pharmacy utilization. Program focuses on home-based education and environmental assessment, with ongoing follow up for pediatric members as long as they participate in the health plan. Adult members are re-assessed after one year for need to continue in the program. Home Health nurses are trained in asthma education including: peak flow meter use, MDI with spacer use, identifying triggers, environmental assessment, appropriate medication use, and Asthma Action Plans. | Barrier: Encouraging member education, participation in self-management of disease process This program was developed to address the need for intensive, ongoing education of asthma management techniques. It was determined that little or no education was being addressed in the physician office, and that there was a need to consistently reinforce asthma education to maintain patient compliance with recommended treatment protocols. |
| 05/97 | X | Group classes were begun for all members with asthma in the local Hampton Roads, Va. area. These classes provide basic asthma education including: peak flow meter use, MDI with spacer use, identifying triggers, appropriate medication use and Asthma Action Plans. The classes are held twice monthly in the evening, and all members identified with asthma receive an invitation to attend and a class schedule. | Barrier: Member education for less severe asthma patients. These classes were designed to give members with less severe asthma an opportunity to learn more about their disease process. The group setting is conducive to encouraging communication between people who suffer similar symptoms and experiences, providing positive feedback and more willingness to achieve treatment goals. |

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| 08/97 | X | Clinical Guidelines for treatment of asthma were developed and distributed to network participating physicians. The guidelines were developed by a team of physicians lead by the program physician leader, and based on the National Institutes of Health Guidelines for the Diagnosis and Treatment of Asthma. These guidelines are updated at periodic intervals to reflect any recommended changes in asthma care. | <p>Barrier: Physician education, notification of updated information for best practice.</p> <p>The guidelines were developed to assist physicians in maintaining optimal care for their asthma patients. They were designed to provide the physicians a quick and easily accessible overview of asthma patient management.</p> |
| 02/98 | X | Physician reports were developed which include indicators for the physician receiving the report, the physician peer group, and goals established by the health plan. These indicators include the number of members in that physician's panel who have had inpatient admissions and emergency department visits, and the medication ratio of beta2-agonists to anti-inflammatory inhalers for the members in that physician's panel. | <p>Barrier: Physician education, physician awareness of self-practice and goals and expectations pertaining to asthma.</p> <p>It was determined that physician's often were not aware of the overall status of their patient's utilization patterns. This report provides the physician with a quick overview of important indicators for several chronic disease processes to encourage optimum patient care.</p> |
| 02/98 | X | A report that shows all prescriptions filled for asthma related medications by individual member was developed. This report also includes a breakdown of medications prescribed by physician. | <p>Barrier: Physician education, physician awareness of patient compliance with recommended treatment</p> <p>The development of this report enabled the Disease Management staff to better identify members who were not using appropriate medication therapy for asthma and provide intervention such as the home care program or telephone case management. It also provided additional information to physicians to further assist them in increasing appropriate prescribing practices for their asthma patients.</p> |
| 07/98 | X | SHM implemented Welcome Calls to new members. Included in the general information obtained during these calls it was ascertained if the new member had ever been diagnosed with asthma. This information is forwarded to the Disease Management staff for further action. | <p>Barrier: Identification of members to provide education in a timely manner</p> <p>Implementing the Welcome Calls gives SHM the opportunity to address any concerns about a members asthma immediately upon their enrollment, rather than waiting for them to file a claim or fill a prescription for identification purposes.</p> |

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| 07/98 | X | Educational booklets began to be mailed on an ongoing basis to any member identified with asthma. These booklets contain an overview of all pertinent information for asthma education. They were designed at a low literacy level to be appropriate for all members. Two books are sent out, one for adult members with asthma and one for parents of pediatric asthma members. | Barrier: Patient education, knowledge of disease process to enhance self-management. The books were developed as a method of communication with members who were not eligible for other more intensive interventions, or not able to attend scheduled classes. |
| Interventions For Analysis Cycle January 1 through December 31, 2000 | | | |
| 01/00 | X | Physician Management Summary reports were sent to physicians participating with the health plan and who had a minimum of 10 patients in their panel diagnosed with asthma. These reports gave the physician an overview of three parameters pertaining to care of their asthma patients: Number of patients with asthma, hospital admissions, ED visits, and medication ratio. | Barrier: Physician education, personalization of asthma data This tool allows physicians to see not only how the health plan measures their performance for specific chronic disease conditions, but also allows them to measure their performance against their peer group of physicians and the goal established by the health plan. |
| 02/00 | X | An asthma education videotape was distributed to the Sentara Hospitals in the Hampton Roads area. This video is to be run several times a day on the hospital education system, which is provided on the televisions in patient rooms. Each patient receives a schedule for this station while they are in the hospital, and the hospital staff is encouraged to have the patients who have been admitted with asthma watch the tape while they are in the hospital. | Barrier: Patient education, disseminating information while patient is experiencing an acute episode. This intervention was developed to reach patients while they are in the hospital. Because asthma patients are more likely to want to learn about their disease and how to avoid severe episodes after having suffered through a recent attack, it is a good opportunity to have them watch and learn while they are in the hospital. This intervention will affect all SHM members who are admitted to any Sentara Hospital. |
| 03/00 | | Conducted a large group mailing to 1580 children identified with asthma between the ages of 6-12. | Barrier: Patient education, providing information to a select age group often at risk for acute asthma exacerbations. Mailing was designed to inform and educate children of a specific age group to be more aware of asthma and how to treat it. Encourages self-management techniques. |

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| 05/00 | | Article included in member newsletter reminding members of the availability of the asthma program and providing tips on how to avoid triggers in “prime” asthma allergy season | Barrier: Patient education, patient awareness of programs and how to access for participation. Incidence of asthma attacks are usually higher in spring and fall, articles designed to target asthma sufferers when symptoms are worse. |
| 06/00 | X | Physician Management Summaries re distributed to participating physicians. | Barrier: Physician education. |
| 07/00-08/00 | | 3 Camp Superkids day camps were held in the Hampton Roads area. Children between ages 6-12 participate in a day of education and activities geared towards enhancing their knowledge about asthma. | Barrier: Patient education, children and parents participating in the care of the disease. This intervention is designed to encourage young asthmatics to learn more about their disease and take an active roll in managing their symptoms. It is intended to address the growing population of asthmatics in this age group and introduce the concepts of self-management to promote compliance at an earlier age. |
| 08/00 | | Article published in member’s quarterly magazine about asthma disease management. Article included comments from a family with a child who participated in the home care program and had a very positive experience with the program. | Barrier: Patient education, making members aware of available programs and how to participate. All materials published and distributed to members that include information on the Disease Management programs enhance member knowledge about the availability of the programs and what the intended outcomes and benefits of participation are. |
| 10/00-12/00 | | Provided inservices on asthma management to three network physician practices and their staff. Gave updated information on the asthma disease management program, reviewed National Institutes of Health Guidelines for the Diagnosis and Management of Asthma, and gave copies of Sentara Health Management’s Clinical Guidelines book. | Barrier: Physician education, encouraging awareness of updated best practice guidelines. This was done to increase awareness in the practice setting of the need to use optimum prescribing practices for asthma, educate patients on how to manage their disease, and increase awareness of the programs offered through Sentara to assist the physicians in achieving the goal of best practice for asthma management. |
| Interventions for Analysis Cycle January 1 through December 31, 2001 | | | |

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| 01/01 | | Developed a Disease Management team to implement the BCAP Typology for Asthma and Diabetes specific to the Family Care (Medicaid) population. This group worked to identify barriers to providing these services to the Family Care members and develop solutions that could be put into place easily and in a short amount of time. | <p>Barrier: Family Care member education, how to enhance communication between members and the health plan, and between divisions within the health plan.</p> <p>This intervention was developed to address the issues and concerns specific to the Family Care population, such as: inability to locate members to provide services, disconnected phones making contact difficult, and children missing days from school due to asthma. It also addressed internal communication issues between Family Care and Disease Management.</p> |
| 01/01 | X | Began a telephonic case management program for members identified with moderate asthma in the Hampton Roads area and members with both moderate and severe asthma identified in the Central Virginia expansion area. The asthma educator maintains contact at weekly intervals initially, with decreasing frequency over time as specific educational goals are met. When all goals are met the member is discontinued from the program. Members can be re-entered into the program if they revert back to having acute episodes and seeking emergent medical care. | <p>Barrier: Home Health program not cost effective for moderate risk members, but they are in need of more contact to possibly stop progression of the disease to more severe.</p> <p>It was determined that there was a need to increase intervention level with members designated as moderate asthmatics, because they have the potential to become severe asthmatics if their disease is not managed appropriately. Because there is no home care intervention available yet (agencies are being contracted with to provide this program in these service areas) in the Central Virginia expansion areas, there was a need to provide a greater level of intervention to members in this area.</p> |
| 02/01 | X | Through work with BCAP Disease Management team, a series of questions specific to asthma were constructed that were added to the Family Care Intake Screenings. The Intake Screenings are questionnaires that the Family Care field representatives ask new members in a face to face interview to get an overview of the needs and health issues a new member might need to have addressed. These screenings are forwarded to the appropriate disease management department when a member indicates a diagnosis of one of the chronic diseases. The member is then risk stratified according to how the questions were answered and available data, and the appropriate intervention taken. | <p>Barrier: Patient education, identification of new health plan members with asthma.</p> <p>This addresses the need to identify new members with asthma quickly and intervene when necessary to insure continuity of care for their asthma when they join the health plan.</p> |

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| 02/01-09/01 | | Presented asthma education classes on site to three large group employer groups, with participation by 162 members. | Barrier: Patient education, need to take education to the member in a convenient location and optimal time. Enables members with asthma or dependents with asthma to receive necessary education at a convenient time and place. |
| 04/01 | | Patient education materials were revised to reflect recent advances in treatment modalities for asthma patients. | Barrier: Patient education. Addresses the necessity of keeping patients informed and providing them with the tools necessary to promote self - management of their disease. |
| 07/01 | X | Physician Management Summaries were mailed to network participating physicians. | Barrier: Physician education Summaries are an ongoing effort to improve physician knowledge of their patient's utilization trends and pharmacy indicators for asthma. |
| 09/01 | | A repeat mailing of educational materials to 2600 members with asthma between the ages of 6-12 was completed. | Barrier: Patient education, address needs of younger members with asthma. Mailing was designed to inform and educate children of a specific age group to be more aware of asthma and how to treat it. Encourages self-management techniques. |
| 10/01 | X | Officially launched schoolasthmaallergy.com website. The website provides information about asthma and allergies geared towards school nurses. It also contains information pertinent to teachers, parents, and children with asthma. The website contains educational tools and information, and also provides links to other sites and organizations that provide health related information. | Barrier: Patient education, develop alternative ways of patient outreach. The website was developed to reach out to the growing number of members who access the internet to obtain health information. It was determined that this was a medium that was found in almost all schools and could be easily accessed by the nurses to download information that would be useful in taking care of their students with asthma. |

| Interventions for Analysis Cycle January 1 through December 31, 2002 | | | |
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| 01/02 | | Participated in a School Health Fair at a local high school. The health fair was intended to promote fitness and health education for high school students. Over 500 students and faculty attended the health fair. Asthma educational sessions were held throughout the day, with educational materials available for distribution upon request. | <p>Barrier: Patient education, reaching out to younger members to encourage self-management techniques, taking education to a convenient location at a convenient time.</p> <p>There is a continuing need to promote awareness of asthma and increase compliance and self-management. Members in the high school age group historically have a low compliance rate with suggested treatment, the health fair was a way to address members who may not avail themselves of other forms of asthma education.</p> |
| 02/02 | | Provided clinical expertise for a cable access television program sponsored by the Norfolk Public School system. The television show addresses topics of interest for students in the public school system. A panel of high school students participated in the broadcast; asking questions about asthma that they felt were pertinent to teens suffering from this chronic disease. Questions and answers were interspersed with educational information and demonstrations of peak flow meters and MDI with spacer use. | <p>Barrier: Patient education, reaching large amounts of members at one time.</p> <p>This was another avenue to provide needed education to an age group that is not always compliant with treatment, or would usually seek out educational opportunities about their disease process.</p> |
| 03/02 | | Conducted an asthma education session on site for 35 members of a large group employer. | <p>Barrier: Patient education, convenient time and place</p> <p>Enables members with asthma or dependents with asthma to receive necessary education at a convenient time and place.</p> |
| 04/02 | | Reviewed and revised After Hours Nurse protocol for asthma. Updated medication lists to reflect latest changes in National Institutes of Health Guidelines. | <p>Barrier: Health plan staff education, updating information to provide optimum care for members with asthma.</p> <p>After Hours nurses receive phone calls from members with asthma, they need to be aware of the appropriate intervention to suggest for the member and to stay current in the latest trends in asthma care.</p> |

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| 05/02 | X | Worked with Sentara Family Care to have their staff verify telephone numbers of Family Care members referred to the Home Care Program. Family Care staff will try to provide most accurate phone number as possible, may contact physician office to verify most recent number. | <p>Barrier: Patient education, ability to contact member to provide needed education.</p> <p>A major barrier to enrolling Family Care members into the Home Health Asthma Program was the inability of the home health nurses to contact the member to set up an appointment. Verifying phone numbers will increase the number of members contacted and participation in the program.</p> |
| 05/02 | X | Worked with the IT staff to develop a report to accurately reflect the members who are enrolled in the Home Health Asthma program each month. | <p>Barrier: Health plan information, ability to track members in need of services, or already receiving services in order not to duplicate efforts.</p> <p>SHM was dependent on the Home Health staff to report back to us which members that were referred to the Home Health Asthma Program actually got admitted to the program. The communication was sporadic and not provided in a timely fashion. The development of this report enables the Disease Management staff to track accurately which members are enrolled in the home care program and when they are admitted.</p> |
| 05/02 | | Participated in a health fair conducted by a large group employer. Over 600 health plan members attended the health fair. Educational information about asthma was distributed to interested members, and demonstrations of peak flow meter use and MDI with spacer use were conducted. Individual education was conducted upon request. | <p>Barrier: Patient education, ability to reach large numbers of members at a convenient time and place.</p> <p>This health fair provided an opportunity to reach out to members in a convenient location. These members may not have otherwise sought out information for their disease. It was an effective way to reach a large group of people at one time and maximize efforts to provide asthma education.</p> |
| 08/02 | X | Physician Management Summaries distributed to network participating physicians. | <p>Barrier: Physician education</p> <p>These reports are an ongoing effort to keep physicians in touch with their patient's utilization of services and give them additional information to assist them in providing optimal care for their patients.</p> |

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| 10/02 | X | Hired a nurse case manager to oversee the expansion area asthma and diabetes populations. This case manager will be responsible for telephonic case management of moderate and high risk asthmatics (where home health Life Coach program is not available), referral to home health programs where available, and mailing educational information to all identified asthmatics in these areas. | <p>Barrier: Patient education, enhancing outreach to members in expansion area.</p> <p>With a growing number of members in non-local areas, it was important for Sentara Health Management to be able to provide the same level of asthma education and disease management intervention to all members. The nurse case manager will provide enhanced services to outlying areas and complement the Life Coach program.</p> |
| 4/03 | | Participated in interview s with a consulting firm (The Lewin Group) hired by the Environmental Protection Agency to provide information about the home health Life Coach program. The EPA chose Sentara's Asthma Disease Management Program to participate in developing a guide book for other Managed Care organizations instructing them on how to develop their own disease management program. These programs would place a great deal of emphasis on the importance of incorporating environmental management into asthma outreach, education, and management strategies. | <p>Barrier: Inability to duplicate these types of programs in all areas, inability to provide home visits within the program structure to provide environmental assessment of the home.</p> <p>The EPA felt that Sentara's program had the necessary focus on this aspect of asthma management to highlight the program on a national level. This program can be used as a template for a successful Disease Management program.</p> |
| 5/03 | X | Inserviced staff at UVA Continuum Home Health on all aspects of the Life Coach program. Developed a communication process to guarantee a quick, smooth referral and feedback process between Sentara and the home health agency. This agency will begin providing the Life Coach program to high- risk asthma members in a large service area of central Virginia. | <p>Barrier: The barriers to this program have always been inability to locate/contact members. This may be a greater consideration in the areas covered by this agency as it will be a largely rural population.</p> <p>The agency has agreed to make multiple contact tries to members referred. The asthma case managers will try all possible avenues of contact to ensure accurate contact numbers for the home health agency.</p> |

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| 5/03 | | Staff from all Disease Management areas attended a Wellness Fair for employees of a large group insured by Sentara. This Wellness Fair was attended by over 1500 employees. Educational materials were available for members interested in learning more about their disease process, and a survey was taken by those wishing to participate. This survey provided information about the member's asthma symptoms and was used as an additional resource in identifying and risk stratifying members for the program. | <p>Barrier: Participating employees had a limited amount of time to access a large amount of information. Not all members attending had the opportunity to gather information they needed or was pertinent to their needs.</p> <p>These large group venues for disseminating information about disease states and available programs are beneficial forms of outreach. Allowing the members more time to gather information specific to their needs would be an important consideration for future health fairs.</p> |
| 5/03 | X | Presented updated Clinical Guidelines for Asthma to the Physician Advisory Committee. These updated guidelines reflected changes made to the national guidelines developed by the National Institutes of Health, which lower the age for safe use of inhaled corticosteroid medications to treat persistent forms of asthma in all age groups. | <p>Barrier: Changing physician prescribing practice to reflect new guidelines. Communicating new guidelines to physicians.</p> <p>Guidelines were approved by PAC members and distributed to all participating physicians. Additional national guideline updates were mailed to primary care and pediatric physicians identified through prescription data as having prescribed large amounts of rescue medicines and low amounts of preventative medicines.</p> |
| 6/03 | X | Worked with pharmacy personnel to develop criteria for determining appropriate members for the new asthma drug Xolair. Physicians requesting this medication for Sentara members must complete a form outlining these criteria and only members meeting the criteria will be approved for reimbursement. All members requesting this medication must participate in the home health Life Coach program for ongoing monitoring of adherence to good disease management techniques | <p>Barrier: This drug is only effective in a select group of asthma members with a highly allergic form of the disease. Its use in other types of asthma patients would not be appropriate. Physician awareness of this fact is crucial to its appropriate use.</p> <p>The criteria developed by the health plan are designed to ensure only appropriate candidates are considered for this medication, and to guide physicians in choosing patients who would benefit from this drug.</p> |

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| 8/03 | X | Inserviced staff at Mid-Atlantic Home Health in the Richmond area on all aspects of the Life Coach program. Developed a communication process to guarantee a quick, smooth referral and feedback process between Sentara and the home health agency. This agency will begin providing the Life Coach program to high- risk asthma members in a large service area of central Virginia. | <p>Barrier: The barriers to this program have always been inability to locate/contact members. This may be a greater consideration in the areas covered by this agency as it will be a largely rural population.</p> <p>The agency has agreed to make multiple contact tries to members referred. The asthma case managers will try all possible avenues of contact to ensure accurate contact numbers for the home health agency.</p> |
| 8/03 | | Participated in filming a Video News Release sponsored by the Environmental Protection Agency in conjunction with the American Association of Health Plans. The Life Coach program was chosen out of 20 possible candidates from across the nation to be featured in this video news release. A camera crew filmed one of the asthma home health nurses conducting an actual visit in the home of a member with asthma. The goal of the VNR was to show how important controlling environmental factors and good education are key to better asthma management. The VNR aired on 96 television stations across the U.S., reaching approximately 4.1 million viewers. | <p>Barrier: None</p> <p>This method of reaching out to a national audience further enhanced the program's ability to reach large numbers of individuals and disseminate the message that proper asthma management can be the key factor in decreasing symptoms and living a normal life for asthma patients.</p> |

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| 10/03 | X | <p>The annual analysis of the Asthma Home Health Life Coach Program showed positive results for all lines of business in outcomes indicators. The analysis showed a 56% decrease in inpatient admissions for participating members when comparing pre-program data to post-program enrollment data. There was also a decrease of 22% in emergency department visits in the Life Coach participating members pre and post enrollment.</p> <p>The Medicaid population specifically had a 44% decrease in inpatient admissions pre and post enrollment, and a 15% decrease in emergency department visits.</p> | <p>Barriers: Ongoing barriers to this program include lack of correct address/telephone numbers, lack of interest on the member's part to want to participate, members not completing the program, dropping out before the curriculum is completed.</p> <p>Many of these barriers are difficult to overcome. Sentara is seeking to partner with other organizations throughout the state to improve the rate of participation, especially with Family Care members. These organizations are grant-funded coalitions, which could provide access to the Medicaid population through neighborhood ambassadors (community lay-workers) and provide some minimal asthma education as well as a gateway into the member's home that wasn't there before. Sentara is also seeking grant funding to further these efforts of using community based lay-workers to enhance the capture rate of members in need of these services.</p> |
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Section V: Chart or Graph (Optional)

Attach a chart or graph for any activity having more than two measurement periods that shows the relationship between the timing of the intervention (cause) and the result of the remeasurements (effect). Present one graph for each measure unless the measures are closely correlated, such as average speed of answer and call abandonment rate. Control charts are not required, but are helpful in demonstrating the stability of the measure over time or after the implementation.

Performance Improvement Project Validation Worksheet

| Project Information |
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| MCO/PHP Name or ID: Sentara Family Care |
| PIP Topic: Improving Overall Treatment and Utilization Patterns for Sentara Health Management Asthma Population |
| Dates In Study Period: 1/1/1999 to 12/31/2003 Dates of Review Period: 1/1/2003 to 12/31/2003 |

| I. ACTIVITY 1: ASSESS THE STUDY METHODOLOGY | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--|--|
| Step 1. REVIEW THE SELECTED STUDY TOPIC (S) | | | | | |
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 1.1 Was the topic selected through data collection and analysis of comprehensive aspects of enrollee needs, care and services? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sentara has analyzed data for all lines of business including the Medallion II population, which revealed continued increases in the number of enrollees identified with asthma. Specific incidence for the Medallion II population was not identified. Data sources for total health plan membership were revealed for 1999 through 2002. Additionally, one-third or more of respiratory related inpatient hospital admissions are due to asthma. | QAPI RE2Q1 QAPI RE2Q2,3,4 QIA S1A1 |
| 1.2 Did the MCO s/PHP s PIP address a broad spectrum of key aspects of enrollee care and services? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | This PIP seeks to decrease ER and hospital admissions for Medallion II enrollees who have been diagnosed with asthma. The PIP activity also seeks to increase the use of appropriate asthma meds. This PIP, over time, will address multiple care and delivery systems that have the ability to pose barriers to improved enrollee outcomes, and meets the requirements of this element. | QAPI RE2Q1 QIA S1A2 |
| 1.3 Did the MCOs/PHPs PIP include all enrolled populations; i.e. , did not exclude certain enrollees such as with those with special health care needs? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sentara followed the HEDIS eligible population description for Medicaid that contained inclusion and exclusion criteria. | QAPI RE2Q1 QIA S1A2 |

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| I. ACTIVITY 1: ASSESS THE STUDY METHODOLOGY |
| Step 1. REVIEW THE SELECTED STUDY TOPIC (S) |
| Assessment Component 1 <input checked="" type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. |
| Recommendations |

| Step 2: REVIEW THE STUDY QUESTION(S) | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|--|------------------------------|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 2.1 Was there a clear problem statement that described the rationale for the study? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The rationale for this study appeared to be linked to the increase in respiratory related admissions in asthma enrollees, but it was not stated as a clear problem for the Medallion II population. A clear problem statement will assist in evaluating whether the study met its objective. | QIA S1A3 |
| Assessment Component 2 <input type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input checked="" type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations Provide a problem statement that supports the rationale. | | | | | |

| Step 3: REVIEW SELECTED STUDY INDICATOR (S) | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|---|---|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 3.1 Did the study use objective, clearly defined, measurable indicators? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Three indicators were identified for this study: number of inpatient admissions for a primary diagnosis of asthma, number of emergency department visits for a primary diagnosis of asthma, and use of appropriate medications for people with asthma. All indicators were objective, clearly and unambiguously defined, and based on current clinical knowledge. A HEDIS measure was used for the third indicator. | QAPI RE3Q1, QAPI RE3Q2-6 QAPI RE3Q7-8 QIA S1B2 QIA S1B3 |
| 3.2 Did the indicators measure changes in health status, functional status, or enrollee satisfaction, or processes of care with strong associations with improved outcomes? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Decreased inpatient admissions and emergency department visits as well as use of appropriate asthma medications have been identified as valid proxy measures for improved health status. | QAPI RE3Q9 QIA S1B1 |
| Assessment Component 3 <input checked="" type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present | | | | | |
| Recommendations | | | | | |

| Step 4: REVIEW THE IDENTIFIED STUDY POPULATION | | | | | |
|--|-------------------------------------|-------------------------------------|--------------------------|--|--|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 4.1 Did the MCO/PHP clearly define all Medicaid enrollees to whom the study question(s) and indicator(s) are relevant? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sentara clearly defined all Medicaid enrollees for the first two indicators as continuously enrolled members with a primary diagnosis of asthma using ICD9 diagnosis codes 493 through 493.92. The third indicator is based upon the percentage of continuously enrolled members with asthma in the prior year that received an appropriate prescription in the reporting year. Enrollees were required to meet one of four criteria in the prior year for study inclusion based upon HEDIS methodology. | QAPI RE2Q1, QAPI RE3Q2-6 |
| 4.2 If the MCO/PHP studied the entire population, did its data collection approach capture all enrollees to whom the study question applied? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Although it is stated that Sentara followed HEDIS specifications for one measure, there was no evidence in the descriptions to support the existence of procedures to ensure that Sentara's data collection approach captured all Medicaid enrollees to whom the study applies. | QAPI RE4Q1&2 QAPI RE5Q1.2 QIA I B, C |
| Assessment Component 4 <input type="checkbox"/> Met – All required components are present. <input checked="" type="checkbox"/> Partially Met – One, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations Describe how Sentara ensures that their data collection approach validly captures all Medicaid enrollees to whom the study applies. | | | | | |

| Step 5: REVIEW SAMPLING METHODS | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|---|------------------------------|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 5.1 Did the sampling technique consider and specify the true (or estimated) frequency of occurrence of the event, the confidence interval to be used, and the margin of error that will be acceptable? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | No sampling was used. Sentara included the entire eligible population in the PIP. | QAPI RE5Q1.3a QIA S1C2 |
| 5.2 Did the MCO/PHP employ valid sampling techniques that protected against bias? <i>Specify the type of sampling or census used:</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | QAPI RE5Q1.3b-c QIA S1C2 |
| 5.3 Did the sample contain a sufficient number of enrollees? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | QAPI RE5Q1.3b-c QIA S1C2 |
| Assessment Component 5 <input type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. <input checked="" type="checkbox"/> N/A. | | | | | |
| Recommendations | | | | | |

| Step 6: REVIEW DATA COLLECTION PROCEDURES | | | | | |
|---|-------------------------------------|-------------------------------------|--------------------------|---|--|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 6.1 Did the study design clearly specify the data to be collected? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Data to be collected was specified in the numerator and denominator and in the “Other Pertinent Methodological Features” of the PIP study document. Specific enrollment requirements and diagnostic codes for asthma were identified as well as utilization data such as ER visits, outpatient visits, and hospitalizations. HEDIS has well defined data requirements for the third indicator. | QAPI RE4Q1&2 |
| 6.2 Did the study design clearly specify the sources of data | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sources of data were clearly identified for each indicator and they included: claims/encounter data and pharmacy data. | QAPI RE4Q1&2 |
| 6.3 Did the study design specify a systematic method of collecting valid and reliable data that represents the entire population to which the study's indicator(s) apply? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The data collection methodology for indicators #1 and #2 was listed as a programmed pull from claims/encounter files of all eligible members. Data collection was identified as continuous. HEDIS methodology was used for collecting data for the third indicator. There was no evidence of a plan to audit data to ensure validity and reliability for each indicator or an estimation of the degree of completeness of the data. | QAPI RE4Q3a QAPI RE4Q3b QIA S1C1 QIA S1C3 |
| 6.4 Did the instruments for data collection provide for consistent, accurate data collection over the time periods studied? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The PIP did not include a plan to audit data to ensure consistency and accuracy over the time periods studied. | QAPI RE4Q1&2 QAPI RE4Q3b QAPI RE7Q1&2 |

| Step 6: REVIEW DATA COLLECTION PROCEDURES | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|---|--------------|
| 6.5 Did the study design prospectively specify a data analysis plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | A clear data analysis plan was not fully described, other than state the frequency. HEDIS methodology was used for the third indicator and it meets compliance with this standard- and analysis is conducted on a reporting year cycle. | QAPI RE5Q1.2 |
| 6.6 Were qualified staff and personnel used to collect the data? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | The PIP did not specify the qualifications of staff/personnel used to collect the data. | QAPI RE4Q4 |
| Assessment Component 6 <input type="checkbox"/> Met – All required components are present. <input checked="" type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations <p>The PIP report should include a description of the internal plan to ensure the collection of valid and reliable data, as well as consistency and accuracy of the data collected over time. For non-HEDIS measures, a clear data analysis plan is expected prospectively. Qualifications of staff/personnel used to collect the data should be specified.</p> | | | | | |

| Step 7: ASSESS IMPROVEMENT STRATEGIES | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--|---|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 7.1 Were reasonable interventions undertaken to address causes/barriers identified through data analysis and QI processes undertaken? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sentara performed barrier analysis following the 2003 measurement period and developed related interventions for each enrollee, provider, and administrative barriers identified. The interventions are reasonable. One intervention incorporated a national standard of care. | QAPI RE6Q1a QAPI RE6Q1b QAPI RE1SQ1-3 QIA S3.5 QIA S4.1 QIA S4.2 QIA S4.3 |
| Assessment Component 7 <input checked="" type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations | | | | | |

| Step 8: REVIEW DATA ANALYSIS AND INTERPRETATION OF STUDY RESULTS | | | | | |
|---|-------------------------------------|--------------------------|-------------------------------------|--|------------------------------------|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 8.1 Was an analysis of the findings performed according to the data analysis plan? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sentara analyzed its findings after each remeasurement period in compliance with its data analysis plan. Both a quantitative and qualitative analysis was performed. | QAPI RE4Q4 QIA III |
| 8.2 Did the MCO/PHP present numerical PIP results and findings accurately and clearly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The Data/Results Table accurately and clearly identified the rate and MCO goal for each indicator for each measurement period. | |
| 8.3 Did the analysis identify: initial and repeat measurements, statistical significance, factors that influence comparability of initial and repeat measurements, and factors that threaten internal and external validity? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The 2003 analysis did identify initial measurements as expected for this review cycle. | QAPI RE7Q2 QIA S1C4 QIA S2.1 |
| 8.4 Did the analysis of study data include an interpretation of the extent to which its PIP was successful and follow-up activities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | This is baseline measurement for 2003. | QIA S2.2 |
| Assessment Component 8 <input checked="" type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations | | | | | |

| Step 9: ASSESS WHETHER IMPROVEMENT IS REAL IMPROVEMENT | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|------------------|---|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 9.1 Was the same methodology as the baseline measurement used when measurement was repeated? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Baseline review. | QAPI RE7Q2 QAPI 2SQ1-2 QIA S1C4 QIA S2.2 QIA S3.1 QIA S3.3 QIA S3.4 |
| 9.2 Was there any documented quantitative improvement in processes or outcomes of care? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | QAPI RE7Q3 QIA S2.3 |
| 9.3 Does the reported improvement in performance have face validity; i.e., does the improvement in performance appear to be the result of the planned quality improvement intervention? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | QIA S3.2 |
| 9.4 Is there any statistical evidence that any observed performance improvement is true improvement? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | QIA S2.3 |
| Assessment Component 9 <input type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations | | | | | |

| Step 10: ASSESS SUSTAINED IMPROVEMENT | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|------------------|------------------------------|
| Component/Standard | Y | N | N/A | Comments | Cites and Similar References |
| 10.1 Was sustained improvement demonstrated through repeated measurements over comparable time periods? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Baseline review. | QAPI RE2SQ3 QIA II, III |
| Assessment Component 10 <input type="checkbox"/> Met – All required components are present. <input type="checkbox"/> Partially Met – Some, but not all components are present. <input type="checkbox"/> Unmet -None of the required components are present. | | | | | |
| Recommendations | | | | | |

Key Findings**1. Strengths of this PIP submission**

- The study indicators were objective and well defined.
- Data elements were carefully specified with unambiguous definitions.
- Data analysis identified system-wide barriers related to enrollees, providers, and administrative processes.
- A comprehensive quantitative and qualitative analysis was performed for each indicator following the conclusion of each remeasurement period.
- Sentara has experienced improvement in each indicator from baseline to each remeasurement.

2. Best Practices

None identified.

3. Potential /significant issues experienced by MCO

Barriers identified included:

- It has been difficult locating enrollees to participate in the Life Coach program because of bad addresses and phone numbers,
- Physician practice patterns have been slow to change with more prescriptions written for quick relief medications rather than preventive medications.
- There are no case managers in the Emergency Department to report asthma admissions in a more timely manner.
- Frequently no follow up appointment is made with an enrollee's PCP after an acute asthma episode that required an Emergency Department visit.
- Inability to capture physician's attention with written materials.

4. Actions taken by MCO

Actions taken by the MCO included:

- Contact the PCP's office to obtain enrollee's phone number and address.
- Inform providers about updated MCO and national guidelines.
- Notify PCP when an enrollee has been admitted and review utilization profile.
- Encourage Emergency Department staff to counsel enrollee on use of asthma medications and to make a follow-up appointment with

Key Findings

their PCP to obtain preventive medications and an asthma action plan.

- Schedule more physician office in-service visits.

5. Recommendations for the next submission

- Describe why this project was chosen for meaningful improvement in the Medallion II population.
- Provide a problem statement that also supports the rationale.
- Describe efforts taken to assure the data is valid, including audits of the data collection, the plan of data analysis, and the qualifications of the staff responsible for collecting the data.